

Remarks

In view of the above amendments and the following remarks, reconsideration of the rejection and further examination are requested.

Claims 3-6 and 10-15 have been indicated as containing allowable subject matter. The Applicants would like to thank the Examiner for this indication of allowable subject matter.

Claims 14 and 15 have been amended into independent form by adding the limitations of claims 1 and 8, respectively.

Claims 1, 2, 8 and 9 have been rejected under 35 U.S.C. §102(e) as being anticipated by Maalej (US 6,545,532).

Claims 1 and 8 have been amended so as to further distinguish the present invention, as recited therein, from the reference relied upon in the above-mentioned rejection.

It is submitted that the above-mentioned rejection is inapplicable to the amended claims for the following reasons.

Claim 1 is patentable over Maalej, since claim 1 recites a digital broadcast receiving apparatus including, in part, second automatic gain control amplification means for amplifying a level of a first demodulated digital signal to be at a second predetermined level, and generating a second demodulated digital signal, wherein the second automatic gain control amplification means includes: multiplication means for receiving the first demodulated digital signal and an automatic gain control signal, multiplying the first demodulated digital signal by the automatic gain control signal, and outputting the multiplied signal as the second demodulated digital signal; and level detection means for receiving the second demodulated digital signal directly from the multiplication means, detecting a level of the second demodulated digital signal, and generating a level signal representing the level of the second demodulated digital signal. Maalej fails to disclose or suggest the second automatic gain control amplification means including the level detection means as now recited in claim 1.

Maalej discloses a QAM demodulator 99 that includes a first automatic gain (AGC) controller circuit 10, a second automatic gain (AGC) controller circuit 20, and a carrier recovery circuit 50. The second AGC controller circuit 20 includes a digital multiplier 210, a digital loop filter 220, and a power comparator 230. The carrier recovery circuit 50 includes a frequency offset detect circuit 525, a phase offset detect circuit 535 and a direct digital synthesizer 545. The frequency offset detect circuit 525 is used to readjust the tuner frequency in order to reduce

filter degradation on the signal and thus improve the bit error rate. The phase offset detect circuit 535 is used for phase tracking in a situation where phase noise is located on the signal.

The second AGC controller circuit 20 receives signal components I and Q from the carrier recovery circuit 50 via a receive filter 40 which filters out adjacent channels. Therefore, the second AGC controller 20 only takes into account the received power of the signal. The second AGC controller circuit 20 is operable to compensate for attenuation of the first AGC controller circuit 10, which is caused by the presence of the adjacent channels, and adapts the signal level exactly to decision threshold levels of the signal. (See column 4, line 64 – column 7, line 38 and Figures 2, 4 and 5).

In the rejection, it is indicated that the second AGC controller circuit 20 and the carrier recovery circuit 50 in tandem correspond to the second automatic gain control amplification means of claim 1. Further, the digital multiplier 210 is indicated as corresponding to the claimed multiplication means and the power comparator 230 is relied upon as corresponding to the claimed level detection means. However, claim 1 now recites that the level detection means is for receiving the second demodulated digital signal directly from the multiplication means, detecting a level of the second demodulated digital signal, and generating a level signal representing the level of the second demodulated digital signal. This structure of the second automatic gain control amplification means reduces a signal delay in the second automatic gain control amplification means, thereby allowing the claimed apparatus having the second automatic gain control amplification means follow large frequency fluctuations in a digital broadcast wave.

On the other hand, the output from the digital multiplier 210 of Maalej passes through the receive filter 40, an equalizer 45, and a carrier wave recovery circuit 50 prior to being received by the power comparator 230. (See Figure 2). Therefore, Maalej clearly fails to disclose or suggest that the power comparator 230 receives a signal directly from the digital multiplier 210. Since this is the case, it is apparent that there is no disclosure or suggestion in Maalej that the second AGC controller circuit 20 and the carrier recovery circuit 50 in tandem disclose or suggest the second automatic gain control amplification means including the level detection means recited in claim 1. As a result, claim 1 is patentable over Maalej.

As for claim 8, it is patentable over Maalej for reasons similar to those discussed above in support of claim 1. That is, claim 8 recites, in part, a second automatic gain controller including

a level detector operable to receive a second demodulated digital signal directly from a multiplier, detecting a level of the second demodulated digital signal, and generating a level signal representing the level of the second demodulated digital signal, which feature is not disclosed or suggested by Maalej.

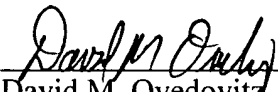
Because of the above-mentioned distinctions, it is believed clear that claims 1-6 and 8-15 are patentable over the reference relied upon in the rejection. Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time of invention would not have been motivated to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in claims 1-6 and 8-15. Therefore, it is submitted that claims 1-6 and 8-15 are clearly allowable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

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